

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name	
PO038327	MEC002-VU	1	1	Net 30	M7075T6S0.375X6.000	7075-T6S Sheet .375" Thick Plate X 6" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft				12	11/28/2017	12		S017377	Stock	12/5/2017	\$ 25.68 / ft	0		\$308.16	Metaux Castle	
		2			M7075T6S0.375X8.000	7075-T6S Sheet .375" Thick Plate X 8" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft						12		S017378	Stock	12/5/2017	\$ 30.75 / ft	0		\$369.00	Metaux Castle	
		4			M7075T6S1.250X2.000	7075-T6 Sheet 1.250" X 2.000" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft						12		S017379	Stock	12/5/2017	\$ 20.12 / ft	0		\$241.44	Metaux Castle	
		5			M7075T6S1.500X1.500	7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft				24		24		S017380	Stock	12/5/2017	\$ 21.06 / ft	0		\$505.44	Metaux Castle	
		6			M7075T6S1.750X2.250	7075-T6 Sheet 1.750" X 2.250" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft						24		S017381	Stock	12/5/2017	\$ 28.62 / ft	0		\$686.88	Metaux Castle	
		9			M7075T6S7.000X2.000	7075-T6S Sheet 7" Thick Plate X 2" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft						24		S017382	Stock	12/5/2017	\$ 78.52 / ft	0		\$1,884.48	Metaux Castle	
Total:										108			108								\$3,995.40	

INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Shipment No:3442525

Page 1 of 2

9  
663377046-1

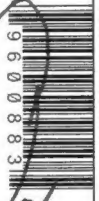
11/17/17  
11/20/17

683-

377046-1

<b>Ship From:</b> A. M. CASTLE & CO. 14001 ORANGE AVENUE PARAMOUNT, CA 90723 USA		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 20-NOV-17	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> YRC	<b>BOL No</b> 3442525-2			

**Shipment Details** Final Destination Branch - TOR

<b>Order No</b> 4957928	<b>Line No</b> 1	<b>Item No</b> 752114.MO	<b>Description</b> 1.2500.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 2 IN ( + .1250/- .0000 IN) X 132.06 IN ( + .1250/- .0000 IN) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12				
<b>Purchase Order No</b> 38327	<b>Part Number</b>		<b>Ordered Qty</b> 1.00 PCS	<b>Invoice Qty</b> 1.00 PCS			
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dataero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS							
<b>Delivery No.</b> 121446201	<b>Mil/Source</b> CONSTELLUM ROLLED PRODUCTS	<b>Heat Number</b> 	<b>Mech Id</b> 1	<b>PCS</b>	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 34.1721

812-125

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Page 2 of 2

Reviewed by Authorized Castle Metals Representative:

Date:

Name:



80-123



**Constellium**



**CERTIFIED TEST REPORT**  
Constellium Rolled Products  
Ravenswood, LLC

S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE

1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110549073		4075	INCLUSION		Serial:20170628-0110549073		Pg 1of2		
CUSTOMER PURCHASE ORDER NO. & ITEM 419158						Constellium ORDER NO. 202980		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA   Steve Good - Laboratory Manager			
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.25000 in 31.75 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm						
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS 4045K											
PART NUMBER 752114			B/L NUMBER 83075		DATE SHIPPED 06/28/2017						
WT. SHIPPED 2700.000 LB		NO. OF PIECES 000003		GOV'T. CONTRACT NO.							

**ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:**

ASTM B594 REV 13 2013 100% SONIC W/ 0.125" DEADZONE Class A  
 AMS QQ-A-250/12A  
 AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE  
 ASTM B209-14  
 BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE  
 CST1006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE  
 DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE  
 GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE  
 PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

**Load Details**

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001521090	900.000	408.233	9600883	01		
1001521090	900.000	408.233	9600883	02		
1001521090	900.000	408.233	9600883	03		

Lot: **9600883**

**Tensile - Room Temperature (US)**

		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	81.2	82.1	71.1	72.2	11.5	12.5	

**Tensile - Room Temperature (SI)**

		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	560	566	490	498	11.5	12.5	



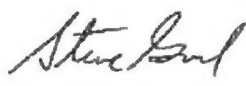
**CERTIFIED TEST REPORT**  
Constellium Rolled Products  
Ravenswood, LLC

S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110549073		4075		INCLUSION		Serial:20170628-0110549073		Pg 2of2																					
CUSTOMER PURCHASE ORDER NO. & ITEM 419158						Constellium ORDER NO. 202980																									
ALLOY 7075		CLAD		TEMPER T651		GAUGE 1.25000 in 31.75 mm		WIDTH 48.50000 in 1,232 mm		LENGTH 144.50000 in 3,670 mm																					
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH																															
CUSTOMER SPECIFICATION AMS 4045K																															
PART NUMBER 752114				B/L NUMBER 83075				DATE SHIPPED 06/28/2017																							
WT. SHIPPED 2700.000 LB				NO. OF PIECES 000003				GOVT. CONTRACT NO.																							
<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA   Steve Good - Laboratory Manager																															
Chemistry (Actual)																															
<table border="1"><thead><tr><th></th><th>SI</th><th>FE</th><th>CU</th><th>MN</th><th>MG</th><th>CR</th><th>ZN</th><th>TI</th><th>ZR</th></tr></thead><tbody><tr><td>Core</td><td>0.07</td><td>0.17</td><td>1.41</td><td>0.06</td><td>2.57</td><td>0.20</td><td>5.46</td><td>0.03</td><td>0.00</td></tr></tbody></table>													SI	FE	CU	MN	MG	CR	ZN	TI	ZR	Core	0.07	0.17	1.41	0.06	2.57	0.20	5.46	0.03	0.00
	SI	FE	CU	MN	MG	CR	ZN	TI	ZR																						
Core	0.07	0.17	1.41	0.06	2.57	0.20	5.46	0.03	0.00																						
OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER																															
All material contained in this lot was cast and manufactured in the USA																															
QUALITY TEXTS: AMC CA-15403A R 7																															
<p>THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.</p> <p>CHEMISTRY BY OES: ARKSPARK CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399 WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557 DUNS Number: 090570149; CAGE Code: 1YW19</p> <p>Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.</p> <p>"END OF CERTIFICATION"</p>																															
P-860-155D REVISED: 10 2014																															

**INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE**

Page 1 of 1

Shipment No:3442525

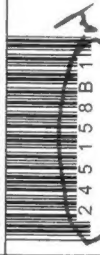
<b>Ship From:</b> A. M. CASTLE & CO. 14001 ORANGE AVENUE PARAMOUNT, CA 90723 USA		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 20-NOV-17		<b>F.O.B.</b> ORIGIN		<b>Freight Terms</b> Prepaid		<b>Carrier</b> YRC	
<b>BOL No</b> 3442525-2							

**Shipment Details**

Order No	Line No	Item No	Description
4952710	1	750067.MO	0.3750.PL.7075.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 6 IN ( + .0620/- .0000 IN ) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
<b>Purchase Order No</b> 38327		<b>Part Number</b>	<b>Ordered Qty</b> 1.00 PCS
<b>Invoice Qty</b> 1.00 PCS			

**Details**  
ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY  
ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S  
Email P/s and certs to: clavoie@dartaero.com  
END USER: DART AEROSPACE  
END USE: COMMERCIAL AIRCRAFT PARTS

*Signature*

Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
121446201	KAISER ALUMINUM	 2 4 5 1 5 8 B 1 1		1			34.0636

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut to the correct customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date: \_\_\_\_\_ Name: \_\_\_\_\_

Date Printed: 20-NOV-2017 04:38:15 PM

*Signature*  
1-21-17

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4481839

SHIP TO:  
A M CASTLE & CO  
14001 ORANGE AVE  
P.O. BOX 1402  
PARAMOUNT, CA 90723

SOLD TO:  
AM CASTLE & CO- SOLD TO  
1420 KENSINGTON RD  
SUITE 220  
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 438454-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 750067	SHIP RUN/LOAD: 104070/8	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1244225-1	SHIP DATE: 14-OCT-2017	ALLOY: 7075	CLAD: BARE	TEMPER: T651
WEIGHT SHIPPED: 3198 LB	QUANTITY: 12 PCS EST.	TRUCK B/L #: 2069553	GAUGE: 0.3750 IN (9.5250 MM)	PRODUCT DESCRIPTION: Sawed Plate
		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)		LENGTH: 144.500 IN (3670.3 MM)

MHU 2157346: LOT 245158B1: 12 pieces;

### Certified Specifications

AMS-QQ-A-250/12/RevA

ASTM B 209/Rev14

AMS 4045/RevL  
CMMP 025/RevV

Test Code: 1512

Lot: 245158B1

Cast 534

Drop 25

Test Results  
Ingot 5

Melted in USA

(ASTM E8/B557)  
(EN 2002-1)

Tensile: Temper  
T651

Dir / # Tests  
LT / 3 (Min:Max)

Ultimate KSI (MPA)  
85.5 : 85.8  
(590 : 592)

Yield KSI (MPA)  
75.8 : 76.0  
(523 : 524)

Elongation %  
13.3 : 13.5

(ASTM E1251)

Chemistry:  
Actual(wt%)

SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
0.10	0.17	1.5	0.04	2.5	0.19	5.8	0.03	0.01	0.02	TOT 0.03

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS  
AMC CA-15409 R 3







Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4481839

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- \* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
- All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
- \* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
- \* has been thermally processed in compliance with AMS 2772, where applicable.
- \* is mercury free, within the limits of detection of ASTM E1215 ( $\leq 1$  ppm).
- \* is in compliance with RoHS 2, European Union Directive 2011/65/EU.
- \* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
- \* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
- \* is free of weld repair.
- \* meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.


JAMES HEMENWAY, TECHNICAL PROCESS MANAGER



**INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE**

Shipment No:3442525

<b>Ship From:</b> A. M. CASTLE & CO. 14001 ORANGE AVENUE PARAMOUNT, CA 90723 USA		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 20-NOV-17	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid		<b>Carrier</b> YRC		<b>BOL No</b> 3442525-2	
<b>Final Destination Branch - TOR</b>							

<b>Shipment Details</b>							
<b>Order No</b> 4952710	<b>Line No</b> 2	<b>Item No</b> 750067.MO	<b>Description</b> 0.3750.PL.7075.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 8 IN ( + .0620/- .0000 IN) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12				
<b>Purchase Order No</b> 38327	<b>Part Number</b>	<b>Ordered Qty</b> 1.00 PCS	<b>Invoice Qty</b> 1.00 PCS				
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS							
<b>Delivery No.</b> 121446201	<b>Mill/Source</b> KAISER ALUMINUM	<b>Heat Number</b>  245158B11	<b>Mech Id</b> 1	<b>PCS</b>	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 45.4181

*3442525-2*

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material not to the correct size, or material not to the correct customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative: \_\_\_\_\_ Date: \_\_\_\_\_ Name: \_\_\_\_\_

SHIP TO:  
A M CASTLE & CO  
14001 ORANGE AVE  
P.O. BOX 1402  
PARAMOUNT, CA 90723

SOLD TO:  
AM CASTLE & CO- SOLD TO  
1420 KENSINGTON RD  
SUITE 220  
OAK BROOK, IL 60523

**KAISER  
ALUMINUM**  
Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4481839

CUSTOMER PO NUMBER: 438454-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 750067	SHIP RUN/LOAD: 104070/8	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1244225-1	SHIP DATE: 14-OCT-2017	ALLOY: 7075	CLAD: BARE	TEMPER: T651
PRODUCT DESCRIPTION: Sawed Plate				
WEIGHT SHIPPED: 3198 LB	QUANTITY: 12 PCS EST.	TRUCK B/L #: 2069553	GAUGE: 0.3750 IN (9.5250 MM)	DIAMETER/WIDTH: 48.500 IN (1231.9 MM)
			LENGTH: 144.500 IN (3670.3 MM)	

MHU 2157346: LOT 245158B1: 12 pieces;

### Certified Specifications

AMS-QQ-A-250/12/RevA

ASTM B 209/Rev14

AMS 4045/RevL  
CMMP 025/RevV

Test Code: 1512  
Lot: 245158B1

Cast 534

Drop 25

Test Results  
Ingot 5

Melted in USA

(ASTM E8/B557)  
(EN 2002-1)

Tensile: Temper  
T651

Dir / # Tests  
LT / 3 (Min:Max)

Ultimate KSI (MPA)  
85.5 : 85.8  
(590 : 592)

Yield KSI (MPA)  
75.8 : 76.0  
(523 : 524)

Elongation %  
13.3 : 13.5

(ASTM E1251)  
Chemistry:  
Actual(wt%)

SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
0.10	0.17	1.5	0.04	2.5	0.19	5.8	0.03	0.01	0.02	TOT 0.03

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS  
AMC CA-15409 R 3





Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4481839

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
  - All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
  - was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
  - has been thermally processed in compliance with AMS 2772, where applicable.
  - is mercury free, within the limits of detection of ASTM E1215 ( $< 1$  ppm).
  - is in compliance with RoHS 2, European Union Directive 2011/65/EU.
  - is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
  - is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
  - is free of weld repair.
  - meets the reporting requirements of EN10204, Type 3.1.
- Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

JAMES HEMENWAY, TECHNICAL PROCESS MANAGER

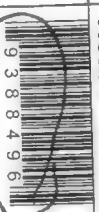
**INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE**

Page 1 of 1

Shipment No:3442525

<b>Ship From:</b> A. M. CASTLE & CO. 14001 ORANGE AVENUE PARAMOUNT, CA 90723 USA		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 20-NOV-17	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> YRC		<b>BOL No</b> 3442525-2		

**Shipment Details**

<b>Order No</b> 4952710	<b>Line No</b> 3	<b>Item No</b> 750412.MO	<b>Description</b> 1.5000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 1.5 IN ( + .0620/- .0000 IN) X 144.5 IN ( ) ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12				
<b>Purchase Order No</b> 38327	<b>Part Number</b>		<b>Ordered Qty</b> 2.00 PCS	<b>Invoice Qty</b> 2.00 PCS			
<p><b>Details</b></p> <p>ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY</p> <p>ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S</p> <p>Email P/s and certs to: clavoie@dartaero.com</p> <p>END USER: DART AEROSPACE</p> <p>END USE: COMMERCIAL AIRCRAFT PARTS</p>							
<b>Delivery No.</b> 121446201	<b>Mil/Source</b> CONSTELLUM ROLLED PRODUCTS	<b>Heat Number</b> 	<b>Mech Id</b> 2	<b>PCS</b>	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 67.0326

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A M Castle & Co. within 60 days of the shipment. Material can to the correct size, or material (customer) cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative

Date: Name:

1-27

Date Printed: 20-NOV-2017 04:38:15 PM



**Constellium**



**CERTIFIED TEST REPORT**  
Constellium Rolled Products  
Ravenswood, LLC


S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE

1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110564184		4075		INCLUSION		Serial: 20170828-0110564184		Pg 1 of 2			
CUSTOMER PURCHASE ORDER NO. & ITEM 420826						Constellium ORDER NO. 204514							
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.50000 in 38.10 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm								
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH						<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA    Steve Good - Laboratory Manager							
CUSTOMER SPECIFICATION AMS QQ-A-250/12A													
PART NUMBER 750412			B/L NUMBER 86053		DATE SHIPPED 08/28/2017								
WT. SHIPPED 4240.000 LB		NO. OF PIECES 000004		GOVT. CONTRACT NO.									

**ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:**

ASTM B594 REV 13 2013 100% SONIC W/ 0.125" DEADZONE Class A  
 AMS 4045K  
 AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE  
 ASTM B209-14  
 BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE  
 CST1006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE  
 DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE  
 GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE  
 PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

**Load Details**

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001522468	1,060.000	480.808	9388496	01		
1001522468	1,060.000	480.808	9388496	02		
1001522468	1,060.000	480.808	9388496	03		
1001522468	1,060.000	480.808	9388496	04		

**Lot: 9388496**

**Tensile - Room Temperature (US)**

Direction	Tests	Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	80.8	81.8	70.9	72.2	12.0	12.5	





# Constellium



## CERTIFIED TEST REPORT


Constellium Rolled Products  
Ravenswood, LLC

S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110564184		4075		INCLUSION		Serial: 20170828-0110564184		Pg 2 of 2	
CUSTOMER PURCHASE ORDER NO. & ITEM 420826						Constellium ORDER NO. 204514					
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.50000 in 38.10 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA   Steve Good - Laboratory Manager				
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS QQ-A-250/12A											
PART NUMBER 750412			B/L NUMBER 86053		DATE SHIPPED 08/28/2017						
WT. SHIPPED 4240.000 LB		NO. OF PIECES 000004		GOVT. CONTRACT NO.							

Tensile - Room Temperature (SI)				Yield (N/MM2)		Elongation (%)		Report
		Ultimate (N/MM2)						
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	557	564	489	498	12.0	12.5	

Chemistry (Actual)									
	SI	FE	CU	MN	MG	CR	ZN	TI	ZR
Core	0.08	0.18	1.41	0.04	2.63	0.21	5.50	0.03	0.00

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

QUALITY TEXTS:  
AMC CA-15403A R 7

THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CHEMISTRY BY OES: ARKSPARK

CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT

WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399

WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557

DUNS Number: 090570149; CAGE Code: 1YW19

Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.

"END OF CERTIFICATION"

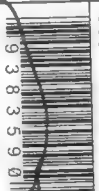
**INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE**

Page 1 of 1

Shipment No: 3442525

<b>Ship From:</b> A. M. CASTLE & CO. 14001 ORANGE AVENUE PARAMOUNT, CA 90723 USA		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 20-NOV-17	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> YRC	<b>BOL No</b> 3442525-2			

<b>Shipment Details</b>		<b>Final Destination Branch - TOR</b>	
-------------------------	--	---------------------------------------	--

Order No	Line No	Item No	Description	Ordered Qty	Invoice Qty
4952710	4	750488.MO	1.7500.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 2.25 IN ( + .0620/- .0000 IN ) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	2.00 PCS	2.00 PCS
<b>Purchase Order No</b> 38327					
<b>Part Number</b> 2.00 PCS					
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
<b>Delivery No.</b> 121446201	<b>Mill/Source</b> CONSTELLUM ROLLED PRODUCTS	<b>Heat Number</b>  9 3 8 3 5 9 0	<b>Mech Id</b> 2	<b>PCS</b>	<b>Width (IN)</b>
					<b>Length (IN)</b>
					<b>Shipped Qty(LBS)</b> 117.8218

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specific requirements for a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material not to the correct size, or material not to the correct specification, cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date: Name:

Date Printed: 20-NOV-2017 04:38:15 PM





**Constellium**



**CERTIFIED TEST REPORT**  
Constellium Rolled Products  
Ravenswood, LLC

S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110516970		4075		INCLUSION		Serial:20170322-0110516970		Pg 1of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 413045						Constellium ORDER NO. 198377					
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.75000 in 44.45 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA    Steve Good - Laboratory Manager				
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS QQ-A-250/12A											
PART NUMBER 750488		B/L NUMBER 77792		DATE SHIPPED 03/22/2017							
WT. SHIPPED 9940.000 LB		NO. OF PIECES 000008		GOVT. CONTRACT NO.							

**ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:**

ASTM B594 REV 13 2013 100% SONIC W/ 0.125"DEADZONE Class A  
 AMS 4045K  
 AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE  
 ASTM B209-14  
 BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE  
 CST1006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE  
 DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE  
 GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE  
 PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

**Load Details**

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001476359	1,245.000	564.722	9383589	01		
1001476359	1,245.000	564.722	9383589	02		
1001476360	1,245.000	564.722	9383589	03		
1001476360	1,245.000	564.722	9383589	04		
1001476361	1,240.000	562.454	9383590	01		
1001476361	1,240.000	562.454	9383590	02		
1001476362	1,240.000	562.454	9383590	03		
1001476362	1,240.000	562.454	9383590	04		

**Lot: 9383589**

**Tensile - Room Temperature (US)**

		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	78.2	79.8	68.2	69.6	12.0	12.5	





# Constellium



## CERTIFIED TEST REPORT


Constellium Rolled Products  
Ravenswood, LLC

S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110516970		4075		INCLUSION		Serial:20170322-0110516970		Pg 2of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 413045						Constellium ORDER NO. 198377					
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.75000 in 44.45 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA    Steve Good - Laboratory Manager				
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS QQ-A-250/12A											
PART NUMBER 750488			B/L NUMBER 77792		DATE SHIPPED 03/22/2017						
WT. SHIPPED 9940.000 LB		NO. OF PIECES 000008		GOVT. CONTRACT NO.							

### Tensile - Room Temperature (SI)

		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	539	550	470	480	12.0	12.5	

### Chemistry (Actual)

	SI	FE	CU	MN	MG	CR	ZN	TI	ZR
Core	0.07	0.21	1.47	0.04	2.49	0.20	5.57	0.04	0.01

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: **9383590**

### Tensile - Room Temperature (US)

		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	78.9	79.0	68.3	70.4	11.5	12.0	



**Constellium**




**CERTIFIED TEST REPORT**  
Constellium Rolled Products  
Ravenswood, LLC

S  
H  
I  
P  
T  
O

A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

S  
O  
L  
D  
T  
O

A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110516970		4075		INCLUSION		Serial:20170322-0110516970		Pg 3of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 413045						Constellium ORDER NO. 198377					
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.75000 in 44.45 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA    Steve Good - Laboratory Manager				
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS QQ-A-250/12A											
PART NUMBER 750488			B/L NUMBER 77792		DATE SHIPPED 03/22/2017						
WT. SHIPPED 9940.000 LB			NO. OF PIECES 000008		GOVT. CONTRACT NO.						

Tensile - Room Temperature (SI)								
		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	544	545	471	485	11.5	12.0	

Chemistry (Actual)									
	SI	FE	CU	MN	MG	CR	ZN	TI	ZR
Core	0.07	0.21	1.47	0.04	2.49	0.20	5.57	0.04	0.01

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

QUALITY TEXTS:  
AMC CA-15403A R 7

THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CHEMISTRY BY OES: ARKSPARK  
 CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT  
 WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399  
 WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557  
 DUNS Number: 090570149; CAGE Code: 1YW19

Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.

"END OF CERTIFICATION"

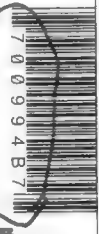
INTERORG TRANSFER  
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Shipment No:3442525

<b>Ship From:</b> A. M. CASTLE & CO. 14001 ORANGE AVENUE PARAMOUNT, CA 90723 USA	<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 20-NOV-17	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> YRC
		<b>BOL No</b> 3442525-2	

<b>Shipment Details</b>	<b>Final Destination Branch - TOR</b>
-------------------------	---------------------------------------

Order No	Line No	Item No	Description	Ordered Qty	Invoice Qty
4952710	6	750616.MO	2.0000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 7 IN ( + .0620/- .0000 IN) X 144.5 IN () - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	2.00 PCS	2.00 PCS
<b>Purchase Order No</b> 38327		<b>Part Number</b>			
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clayvoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
<b>Delivery No.</b> 121446201	<b>Mill/Source</b> KAISER ALUMINUM	<b>Heat Number</b> 	<b>Mech Id</b> 2	<b>Width (IN)</b>	<b>Length (IN)</b> 417.6333
			<b>Shipped Qty(LBS)</b> 417.6333		

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material found to be defective cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date: Name:

Date Printed: 20-NOV-2017 04:38:15 PM



## SHIP TO:

A M CASTLE & CO  
14001 ORANGE AVE  
P.O. BOX 1402  
PARAMOUNT, CA 90723

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

## SOLD TO:

AM CASTLE & CO- SOLD TO  
1420 KENSINGTON RD  
SUITE 220  
OAK BROOK, IL 60523

Serial Number

4477064

CUSTOMER PO NUMBER: 432157-1		WORK PACKAGE:	CUSTOMER PART NUMBER: 750616		SHIP RUN/LOAD: 104033/20	GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1241278-1		SHIP DATE: 7-SEP-2017	ALLOY: 7075	CLAD: BARE	TEMPER: T651	PRODUCT DESCRIPTION: KaiserSelect Plate	
WEIGHT SHIPPED: 2850 LB	QUANTITY: 2 PCS EST.	TRUCK B/L #: 2068866	GAUGE: 2.0000 IN ( 50.8000 MM)		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)	LENGTH: 144.500 IN (3670.3 MM)	

MHU 2140341: LOT 700994B7: 1 pieces;

MHU 2144256: LOT 238206B7: 1 pieces;



### Certified Specifications

AMS 4045/RevL  
ASTM B 209/Rev14  
BSS 7055/RevB  
DPS 4.713/RevAK  
PS 21211/RevP

AMS-QQ-A-250/1 2/RevA  
ASTM B 594/Rev13  
CMMP 025/RevV  
GAMPS 9101/RevB/AmdSCN1

AMS-STD-2154/RevC  
BAC 5439/RevJ  
CSTI 006/RevE  
GSS16100/RevG/Amd1

Test Code: 1512

Lot: 238206B7 Cast 498

Drop 40

### Test Results

Ingot 4

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	80.1 : 80.3 (552 : 554)	69.9 : 70.4 (482 : 485)	11.1 : 11.1

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.10	0.21	1.4	0.06	2.5	0.20	5.6	0.03	0.01	0.01	TOT 0.03
Lot: 700994B7	Cast 498		Drop 19		Ingot 3		Parent Lot: 231142B1				Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	78.4 : 78.5 (541 : 541)	68.0 : 68.1 (469 : 470)	11.9 : 13.6

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.16	1.5	0.04	2.5	0.19	5.7	0.03	0.01	0.01	TOT 0.03



Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4477064

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

### ORDER COMMENTS

AMC CA-15403A R 7

### TEST NOTES

Metal represented by this test report was 100% Type I  
(immersion) ultrasonically tested from one side with 3mm  
dead zones top and bottom and meets the Class A and Class B  
requirements of all specifications referenced on this test  
report. No surface marking of sonic indications is  
performed.

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
  - All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
  - was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
  - has been thermally processed in compliance with AMS 2772, where applicable.
  - is mercury free, within the limits of detection of ASTM E1215 (< 1ppm).
  - is in compliance with RoHS 2, European Union Directive 2011/65/EU.
  - is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
  - is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
  - is free of weld repair.
  - meets the reporting requirements of EN10204, Type 3.1.
- Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

JAMES HEMENWAY, TECHNICAL PROCESS MANAGER

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075+657.000x2.000

PO / BATCH NO.: 038327/5017382

DATE: DEC 06 2017

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: 7.000

QUANTITY RECEIVED: 24'

THICKNESS RECEIVED: 7.000

QUANTITY INSPECTED: 24'

SHEET SIZE ORDERED: 7.000 x 2.000

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: 7.000 x 2.000

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <u>(N)</u>	
CORRECT FINISH	<u>(Y)</u> N	
CORROSION	Y <u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u> N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u> N	<u>AMS-QQ-A-250/12</u>
CORRECT THICKNESS	<u>(Y)</u> N	
PHOTO REQUIRED	Y <u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u> N	<u>Heat # 700994B7</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u> N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>[Signature]</u>	SIGNED OFF BY: _____
DATE: <u>DEC 06 2017</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL:** 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

**SPECIFICATION:** QQ-A-250/12 OR AMS-QQ-A-250/12  
OR ASTM B209

OR

**PURCHASE MATERIAL:** 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

**SPECIFICATION:** QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

**PART NUMBER:** M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

WHERE ".TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG: 0.063" THICK SHEET = M7075T6S.063  
EG: 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

**PREFERRED SIZE:** .TTT BY 4FT BY 10FT FOR SHEET

RELEASED  
2017 JUN 19  
ECN 17-574

APPROVED

B	ADD. REF. TO "PLATE" "T651" TEMPER. AMS 4048, OPTIONAL WIDTH DIM (CAR16-149)	CP	17.05.05
A	NEW ISSUE	RF	10.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
TITLE 7075-T6 SHEET/PLATE SPEC			
REV. B SHEET 1 OF 1			
SCALE NTS			
COPYRIGHT © 2010 BY DART AEROSPACE LTD ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075+651.750 x 2.250

PO / BATCH NO.: 038327/5017381

DATE: DEC 06 2017

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.750

QUANTITY RECEIVED: 17 24"

THICKNESS RECEIVED: 1.750

QUANTITY INSPECTED: 24"

SHEET SIZE ORDERED: 1.750 x 2.250

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: 1.750 x 2.250

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	AMS QQ-A-250/12
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	Heat # 9383590 / 9383589
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>[Signature]</u>	SIGNED OFF BY: _____		
DATE: <u>DEC 06 2017</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**SPECIFICATION CONTROL DRAWING**

**A** PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

**B** PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

**A** PART NUMBER: M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

**A** WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

**A** PREFERRED SIZE: .TTT BY 4FT BY 10FT FOR SHEET

**RELEASED**  
2017 JUN 19 4  
ECN 17-374

APPROVED

B	ADD REF TO "PLATE" T651 TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149)		CP	17.05.05
A	NEW ISSUE		RF	10.11.08
REV.	DESCRIPTION		BY	DATE
DESIGN	RF	DART AEROSPACE LTD		
DRAWN	CP	HAWKESBURY, ONTARIO, CANADA		
CHECKED	ML	DRAWING NO.		
MFG. APPR.	LL	M7075T6S		
APPROVED	WM	TITLE		
DE APPR.	DS	7075-T6 SHEET/PLATE SPEC		
DATE	17.05.05	SCALE		
		SHEET 1 OF 1		
		REV. B		
		NTS		
COPYRIGHT © 2010 BY DART AEROSPACE LTD. ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.				

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M70757651-500x1.500

PO / BATCH NO.: 038327/5017380

DATE: DEC 06 2017

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.500

QUANTITY RECEIVED: 24'

THICKNESS RECEIVED: 1.500

QUANTITY INSPECTED: 24'

SHEET SIZE ORDERED: 1.500 x 1.500

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: 1.500 x 1.500

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	Y (N)	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	Y (N)	
CORRECT MATERIAL PER M-DRAWING	Y (N)	AMS QQ-A-250/12
CORRECT THICKNESS	Y (N)	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	Y (N)	Heat # 9388496
CORRECT MATERIAL IDENTIFICATION	Y (N)	
CORRECT M# ON THE MATERIAL	Y (N)	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AL</u> <span style="float: right;">9</span> DATE: <u>DEC 06 2017</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

B PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A-250/12

OR AMS 4045  
OR ASTM B209

OR

B PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

B SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

B PART NUMBER: M7075T6S | TTT | X | W.WWW |  
| THK | | WIDTH |

B WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

B PREFERRED SIZE: TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

APPROVED

■	ADD REF TO "PLATE" "T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149)	CP	17.05.05
A	NEW ISSUE	RF	10.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		REV B	
DRAWING NO. M7075T6S		SHEET 1 OF 1	
TITLE 7075-T6 SHEET/PLATE SPEC		SCALE NTS	
COPYRIGHT © 2005 DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND IS NOT TO BE RELEASED OR DISCLOSED TO THE PUBLIC WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075+650.375x8.000

PO / BATCH NO.: 038327/5012378

DATE: DEC 06 2017

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: .375

QUANTITY RECEIVED: 12'

THICKNESS RECEIVED: .375

QUANTITY INSPECTED: 12'

SHEET SIZE ORDERED: .275x8.000

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: .375x8.000

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Am5-QQ-A-250/12</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Heat # 245158 B1</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>[Signature]</u>	DAS 9	SIGNED OFF BY: _____	
DATE: <u>DEC 06 2017</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL:** 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE  
**SPECIFICATION:** QQ-A-250/13 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

**PURCHASE MATERIAL:** 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE  
**SPECIFICATION:** QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

**PART NUMBER:** M7075T6S | TTT | X | W.WWWW |  
| THK | | WIDTH |

WHERE ". TTT" = THICKNESS (IN INCHES)  
AND "W.WWWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)  
EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

**PREFERRED SIZE:** . TTT BY 4FT BY 10FT FOR SHEET

RELEASED  
2017 JUN 19 4  
ECN 17-574

APPROVED

B	ADD: REF TO "PLATE", "T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CARB-148)	CP	17.05.05
A	NEW ISSUE	RF	10.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
SHEET 1 OF 1			
TITLE 7075-T6 SHEET/PLATE SPEC			
SCALE NTS			
COPYRIGHT © 2018 BY DART AEROSPACE LTD			
THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE			
NOT TO BE USED BY OR ANY PURPOSE OF COMING OR COMING INTO TO ANY OTHER PERSON OR BODY			
DART AEROSPACE LTD, HAWKESBURY, ONTARIO, CANADA			



## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075 + 650.375 X 6.000

PO / BATCH NO.: 038327/S017377

DATE: DEC 06 2017

MATERIAL CERT REC'D: YES

THICKNESS ORDERED: 0.375

QUANTITY RECEIVED: 12"

THICKNESS RECEIVED: 0.375

QUANTITY INSPECTED: 12"

SHEET SIZE ORDERED: .375 X 6"

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: .375 X 6"

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	<u>AMS QQ-A-250/12</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	<u>Heat # 245158 B1</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u></u> <span style="float: right; font-size: small;">DAS</span> DATE: <u>DEC 06 2017</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION:

QQ-A-250/12 OR AMS  
OR AMS 4045  
OR ASTM B209

OR

PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION:

QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

PART NUMBER:

M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063

EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

PREFERRED SIZE:

TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

APPROVED

B	ADD REF TO "PLATE", "T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149)	CP	17.05.05
A	NEW ISSUE	RF	10.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
REV. B SHEET 1 OF 1			
TITLE 7075-T6 SHEET/PLATE SPEC NTS			
SCALE			
COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT BE USED ONLY FOR THE PURPOSES FOR WHICH IT WAS SUPPLIED. NO OTHER USE OR REPRODUCTION WITHOUT WRITTEN PERMISSION OF DART AEROSPACE LTD.			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075+651.250x2000

PO / BATCH NO.: 038327/5017379

DATE: DEC 06 2017

MATERIAL CERT REC'D: YES

THICKNESS ORDERED: 1.250'

QUANTITY RECEIVED: 12"

THICKNESS RECEIVED: 1.250

QUANTITY INSPECTED: 12"

SHEET SIZE ORDERED: 1.250 x 2.000

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: 1.250 x 2.000

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<u>(N)</u>	
CORRECT FINISH	<u>(Y)</u>	N	
CORROSION	Y	<u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u>	N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u>	N	<u>AMS QQ-A-250</u>
CORRECT THICKNESS	<u>(Y)</u>	N	
PHOTO REQUIRED	Y	<u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u>	N	<u>cert # 9600883</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u>	N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u></u> <span style="float: right; text-align: center; font-size: small;">DAS 9</span>	SIGNED OFF BY: _____
DATE: <u>DEC 06 2017</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL:** 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

**SPECIFICATION:** QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

**PURCHASE MATERIAL:** 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

**SPECIFICATION:** QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

**PART NUMBER:** M7075T6S | TTT | X | W.WWW |  
THK | WIDTH |

**WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)**

EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

**PREFERRED SIZE:** .TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

APPROVED

B	ADD REF TO PLATE: T6511 TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-148)		CP	17 05 05
A	NEW ISSUE		RF	10 11 08
REV.	DESCRIPTION		BY	DATE
DESIGN	RF	DART AEROSPACE LTD		
DRAWN	CP	HAWKESBURY, ONTARIO, CANADA		
CHECKED	ML	DRAWING NO.	REV. B	
MFG. APPR.	LL	M7075T6S	SHEET 1 OF 1	
APPROVED	WM	TITLE	SCALE	
DE APPR.	DS	7075-T6 SHEET/PLATE SPEC	NTS	
DATE	17.05.05	COPYRIGHT © 2010 BY DART AEROSPACE LTD		



Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO038327

**Supplier:** MEC002-VU  
Metaux Castle  
P.O. Box 4090 Str A  
Toronto  
ON  
M5W OE9 Canada

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**PO No:** PO038327

**PO Date:** 11/10/17

**Due Date:** 11/28/17

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**Via:** Ground

**Pynt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

NOV 10 2017

## Items

Line Item	Part	Rev	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	M7075T6S0.375X6.000		7075-T6S Sheet .375" Thick Plate X 6" Wide  MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft		Firmed	11/28/17	12 ft	0 ft	12 ft	\$25.68/ft	\$308.16
2	M7075T6S0.375X8.000		7075-T6S Sheet .375" Thick Plate X 8" Wide  MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft		Firmed	11/28/17	12 ft	0 ft	12 ft	\$30.75/ft	\$369.00
3	M7075T6S1.250X7.000		7075-T6 Sheet 1.25" X 7.000" Order Pre		Firmed	11/28/17	50 ft	0 ft	50 ft	\$44.65/ft	\$2,232.50



Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO038327

Items											
Line Item	Part	Rev	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
			Cut To 50.00" : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft								
Line Item Note note: cut to size 12 pcs @ 50" long											
4	M7075T6S1.250X2.000		7075-T6 Sheet 1.250" X 2.000" : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft		Firmed 11/28/17		12 ft	0 ft	12 ft	\$20.12/ft	\$241.44
5	M7075T6S1.500X1.500		7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft		Firmed 11/28/17		24 ft	0 ft	24 ft	\$21.06/ft	\$505.44
6	M7075T6S1.750X2.250		7075-T6 Sheet 1.750" X 2.250" : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft		Firmed 11/28/17		24 ft	0 ft	24 ft	\$28.62/ft	\$686.88



Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO038327

Items											
Line Item	Part	Rev	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
7	M7075T6S.050	-	MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft		Firmed	11/28/17	48 sf	0 sf	48 sf	\$7.791666/sf	\$374.00
8	M17-4-B1.500X02.250	✓	MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive sf		Firmed	11/28/17	12 ft	0 ft	12 ft	\$66.00/ft	\$792.00
9	M7075T6S7.000X2.000	-	MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft		Firmed	11/28/17	24 ft	0 ft	24 ft	\$78.52/ft	\$1,884.48

Line Item Note note 1.5" x 2.50" acceptable

12 ft  
Sent 11-25

24 ft





Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO038327

Items											
Line Item	Part	Rev	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
			MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft								
										Grand Total:	\$7,393.90

## Order Notes

Procurement Quality Clauses  
A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 11/10/17 9:44 AM dart.lavoie.chantal